



**USAID**  
FROM THE AMERICAN PEOPLE

# COMBATING ZIKA

## AND FUTURE THREATS

A GRAND CHALLENGE FOR DEVELOPMENT



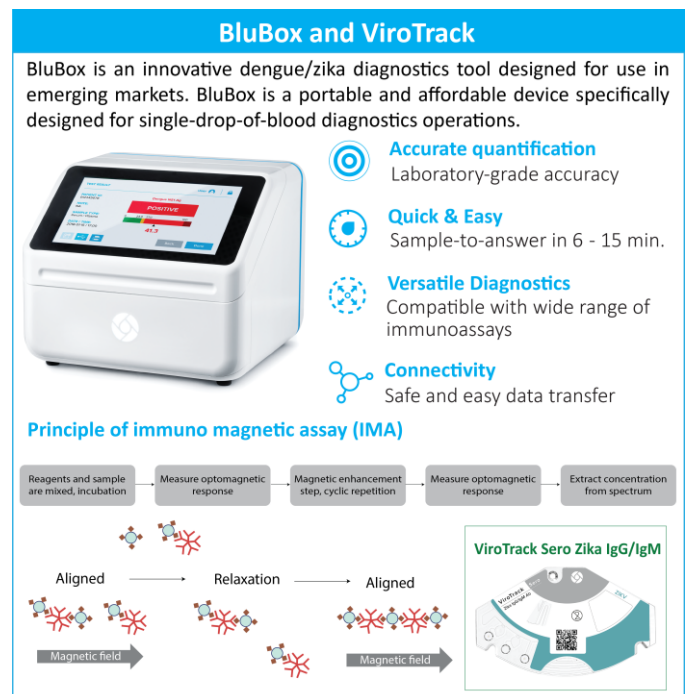
**BLUSENSE**  
DIAGNOSTICS

### *Point-of-care diagnostic test for Zika and dengue from a single drop of blood*

In response to the 2016 Zika outbreak, USAID's Center for Innovation and Impact (CII) launched *Combating Zika and Future Threats: A Grand Challenge for Development (CZFT)* in 2016. The program provided catalytic funding and support, awarding \$30M to 26 innovators across 7 innovation categories

**ViroTrack is a diagnostic system that provides accurate assay results from a single drop of blood in only 6 minutes.** Mosquito-borne diseases have typically been diagnosed by taking a blood sample from a patient and sending it to be tested at a central laboratory, resulting in a lengthy delay for treatment. While the patient is waiting for the results, just one mosquito could transmit the disease to several other members of the community. The ViroTrack is a single use cartridge that works in concert with BluSense's BluBox reader system to provide rapid diagnostic results in as little as 6 minutes.

**CZFT provided catalytic funding to BluSense to help develop its early-stage ViroTrack cartridge-based diagnostic platform.** CZFT awarded BluSense at a time when it had already begun testing its single-use cartridge technology on dengue. CZFT provided an opportunity for the innovator to expand its efforts into Zika in the heart of the pandemic. With these funds, BluSense was able to successfully develop its technology and create cartridge-based diagnostic platform that can be tailored to other diseases, including dengue and COVID-19.



*Example of BluSense diagnostic methodology with ViroTrack and BluBox (Photo courtesy of BluSense)*

**CZFT provided support to help BluSense effectively move towards scale.**

During the program, USAID provided BluSense with multiple types of support, including advocacy and market analysis. The advocacy work leveraged internal USAID experts to match BluSense with key opinion leaders in the diagnostics space, to serve a dual-purpose of providing expert input to inform their product development efforts and create demand and awareness for the product. In addition, CZFT provided market analysis support to BluSense that helped identify attractive markets beyond Brazil and redirect focus the most viable products and markets. This support was key to ensure BluSense had early success in deploying its products.

**USAID helped to create an initial market opportunity for BluSense's diagnostics system.**

CII developed an Advance Purchase Commitment (APC) for Zika diagnostics with UNICEF and WHO to de-risk uncertain market demand for diagnostics innovators, which provided an early sales pathway for BluSense. Moreover, engagement through the APC helped BluSense establish relationships at WHO to continue refining their products for global access and use.

*"CII provided an overview of the markets in Brazil, Colombia and Mexico. This allowed us to understand the markets better and plan how to access them."*



Photo: BluSense

**The platform developed during CZFT enabled BluSense to develop diagnostics for multiple diseases.**

From its inception, the platform developed during CZFT was designed to address the three major arboviral viruses Chikungunya, Zika, and dengue. BluSense was able to build on this platform to rapidly develop and deploy a COVID-19 diagnostic on its ViroTrack line of single-use cartridges. The diagnostic provides a quantitative measure of antibodies in 6 minutes from a single drop of blood. This platform approach was a key differentiator of BluSense's offering, increasing sustainability of the business model and relevance to future threats.

*"Support from USAID to develop our testing platform for antibodies laid the foundation on which we built our COVID-19 total antibody test. Without this previous work it would have taken us much longer to respond to the COVID pandemic."*



Photo: BluSense